

IN THE CLAIMS

Claim 1 (Currently Amended): Method of processing, by machine, composite components ~~(2)~~ comprising at least a support device ~~(3)~~ and a stamp pad ~~(4)~~ by means of a processing device ~~(1)~~, whereby, in order to process the composite component ~~(2)~~, at least one operating head ~~(10)~~ of a material-removing unit ~~(6)~~ and the composite component ~~(2)~~ are moved relative to one another by means of a handling unit ~~(7)~~ controlled and/or regulated by a control unit ~~(9)~~, ~~in particular in an XY plane~~, and material is removed from the composite component ~~(2)~~ by the material-removing unit ~~(6)~~, wherein the stamp pad ~~(4)~~ of the composite component ~~(2)~~ which is at least partially joined to the support device ~~(3)~~ is divided into several pad parts ~~(11)~~ spaced at a distance apart from one another by means of a dividing gap ~~(42)~~ by the material-removing unit ~~(6)~~ and wherein at least one effector unit, which preferably incorporates at least one dispensing unit of the ink dispenser unit and the operating head of the material-removing device, can be displaced and positioned by means of the handling unit.

Claim 2 (Currently Amended): Method as claimed in claim 1, wherein at least one cutting line ~~(43)~~ is defined on a processing surface ~~(39)~~ of the composite component ~~(2)~~ by means of the control unit ~~(9)~~, ~~in particular on a processing surface (39)~~, and the stamp pad ~~(4)~~ is split into the pad parts ~~(11)~~ along the cutting line ~~(43)~~.

Claim 3 (Currently Amended): Method as claimed in claim 1, wherein material is continuously removed across a thickness ~~(41)~~ of the stamp pad ~~(4)~~, preferably along the cutting line ~~(43)~~, in order to form the dividing gap ~~(42)~~ and a composite component ~~(2)~~ with non-connected pad parts ~~(11)~~ is thus produced.

Claim 4 (Currently Amended): Method as claimed in claim 1, wherein once the stamp pad~~—(4)~~ has been cut into several pad parts~~—(11)~~, it is preferably provided with stamping ink~~—(47)~~ or inking fluids by means of ~~an~~ the ink dispenser unit~~—(46)~~.

Claim 5 (Currently Amended): Method as claimed in claim 4, wherein the pad parts~~—(11)~~ are provided with ~~different and/or the same type, in particular~~ differently coloured ~~and/or identically coloured~~, stamping inks~~—(47)~~ or inking fluids.

Claim 6 (Currently Amended): Method as claimed in claim 4, wherein ink is dispensed by the ink dispenser unit~~—(46)~~ in the form of ink drops~~—(58)~~, which are dripped through one or more outlet orifices ~~(55)~~—in the direction of at least one application point ~~(56)~~—on one of the pad parts~~—(11)~~.

Claim 7 (Currently Amended): Method as claimed in claim 4, wherein several application points~~—(56)~~ of a pad top face~~—(57)~~ of the stamp pad ~~(4)~~—are fixed or pre-set by the control unit ~~(9)~~, ~~in particular~~ in a grid pattern.

Claim 8 (Currently Amended): Method as claimed in claim 4, wherein different types of stamping ink~~—(47)~~ for the different pad parts~~—(11)~~ are dispensed respectively via different outlet orifices~~—(55)~~, each with a flow connection to separate housing chambers in stamping ink containers ~~(51)~~—and/ or different types of stamping inks ~~(47)~~—for the different pad parts ~~(11)~~—are dispensed via a single outlet orifice ~~(55)~~—which can be connected to several different housing chambers in stamping ink containers ~~(51)~~—for different stamping ink~~—(47)~~.

Claim 9 (Currently Amended): Method as claimed in claim 4, wherein several ~~different types, in particular~~ differently

coloured, stamping inks ~~(47)~~ are mixed and different types or colours of stamping inks ~~(47)~~, ~~in particular from the palette of the RGB, CMYK colours etc.~~, are created in readiness for application to the pad parts ~~(11)~~ by, ~~for example, an additive~~ a process of mixing specifically metered quantities of stamping inks ~~(47)~~.

Claim 10 (Currently Amended): Method as claimed in claim 4, wherein at least the outlet orifice ~~(55)~~, ~~in particular an outlet nozzle~~, of the ink dispenser unit ~~(46)~~ is positioned ~~on the~~ at different application points ~~(56)~~ in order to dispense ink, preferably at grid points.

Claim 11 (Currently Amended): Method as claimed in claim 4, wherein ink is applied in pulses to the application points ~~(56)~~ by means of one or more ink drops ~~(58)~~.

Claim 12 (Currently Amended): Method as claimed in claim 4, wherein the stamping ink ~~(47)~~ is dispensed by a fluid ejection from the at least one outlet orifice ~~(55)~~ by briefly applying ~~an over-pressure, in particular a~~ pressure surge, at least in the region of the outlet orifice ~~(55)~~, preferably in the ink containers ~~(51)~~.

Claim 13 (Currently Amended): Method as claimed in claim 4, wherein the outlet orifice ~~(55)~~ is sealed to prevent unintentional dispensing of ink by means of a shut-off device ~~(70)~~ which can be switched into a position permitting a passage by applying force and which is preferably in the closed position in the normal state, ~~in particular a check valve (71)~~.

Claim 14 (Cancelled).

Claim 15 (Currently Amended): Method as claimed in claim 1, wherein surface part-regions ~~(59)~~ are set and/or can be set by the control unit ~~(9)~~ on the processing surface ~~(39)~~ of the composite component ~~(2)~~, ~~in particular the stamp pad (4)~~, after which the stamp pad ~~(4)~~ is cut, preferably into the individual pad parts ~~(11)~~ on the basis of these surface part-regions ~~(59)~~.

Claim 16 (Currently Amended): Method as claimed in claim 15, wherein the cutting line ~~(43)~~ between mutually adjacent surface part-regions ~~(59)~~ along which at least the material-removing unit ~~(6)~~ is moved by the handling unit ~~(7)~~ is fixed by means of the control unit ~~(9)~~.

Claim 17 (Currently Amended): Method as claimed in claim 1, wherein the support device ~~(3)~~ for the stamp pad ~~(4)~~ and the pad parts ~~(11)~~ on a base plate are scored along the cutting line ~~(43)~~ simultaneously with the cutting process of the stamp pad ~~(4)~~ by the material-removing unit ~~(6)~~ and/or is partially severed at retaining projections in the region of the processing surface ~~(39)~~.

Claim 18 (Currently Amended): Method as claimed in claim 1, wherein the effector unit ~~(19)~~ or individual components of the effector unit ~~(19)~~ are displaced and positioned in an XY plane, ~~in particular in a Cartesian co-ordinate system based on two co-ordinates~~, by means of the handling unit ~~(7)~~ controlled by the control unit ~~(9)~~.

Claim 19 (Currently Amended): Method as claimed in claim 1, wherein the surface part-regions ~~(59)~~ are set from an input and/or output device ~~(61)~~ co-operating with the control unit ~~(9)~~.

Claim 20 (Currently Amended): Method as claimed in claim 1, wherein a diagram ~~(61e)~~, in particular of a stamp surface of a stamp plate, is displayed at the ~~input and/or output device (61)~~, in particular an output unit ~~(61a)~~ of a computer unit ~~(62)~~ such as a personal computer for example, and the diagram ~~(61e)~~ is divided into several part regions ~~(66, 67)~~ via the ~~an~~ input and/or output device ~~(61)~~, in particular the input unit ~~(61b)~~.

Claim 21 (Currently Amended): Method as claimed in claim 20, wherein the part regions ~~(66, 67)~~ are divided by setting several engraved patterns to be formed and applied to the diagram ~~(61e)~~, for example characters, and these engraved patterns are then formed on a stamp plate preferably by means of the material-removing unit ~~(6)~~.

Claim 22 (Currently Amended): Method as claimed in claim 19, wherein the surface part regions ~~(59)~~ and cutting lines ~~(53)~~ on the stamp pad ~~(4)~~ for cutting the stamp pad ~~(4)~~ into pad parts ~~(11)~~ are fixed depending on the number and shape of the part regions ~~(66, 67)~~ or engraved patterns by means of the control unit ~~(9)~~.

Claim 23 (Currently Amended): Method as claimed in claim 1, wherein the control and/or regulating procedures and computing routines of the control unit ~~(9)~~, for example fixing the cutting lines ~~(43)~~, the surface part regions ~~(59)~~, positioning the handling unit ~~(7)~~ etc., are run by software means.

Claim 24 (Currently Amended): Method as claimed in claim 1, wherein, once the part regions ~~(63, 64)~~ or engraved patterns have been fixed by means of the input and/or output device ~~(61)~~, the regions or cutting lines are automatically divided by the

software means in order to produce the pad parts ~~(11)~~ and/ or stamp plate.

Claim 25 (Currently Amended): Method as claimed in claim 1, wherein material is removed by the material-removing unit ~~(6)~~ by energy ~~(34)~~ irradiated from a radiation source ~~(33)~~, ~~in particular a laser beam (38) of a laser system (36)~~.

Claim 26 (Currently Amended): Processing device ~~(1)~~, at least incorporating a material-removing unit ~~(6)~~ and a handling unit ~~(7)~~, whereby at least one operating head ~~(10)~~ of the material-removing unit ~~(6)~~ can be adjusted, ~~in particular moved~~, by means of the handling unit ~~(7)~~ at least in an XY plane, and the handling unit ~~(7)~~ is connected to a control unit ~~(9)~~ in order to control and/or regulate it, wherein the processing device ~~(1)~~ has an ink dispenser unit ~~(46)~~ for dispensing stamping ink ~~(47)~~ as required, ~~in particular inking fluids~~.

Claim 27 (Currently Amended): Processing device as claimed in claim 26, wherein the handling unit ~~(7)~~ is designed to displace at least one outlet orifice ~~(55)~~ of the ink dispenser unit ~~(46)~~ relative to a workpiece holder ~~(8)~~, ~~for example~~.

Claim 28 (Currently Amended): Processing device as claimed in claim 26, wherein the ink dispenser unit ~~(46)~~ has at least one dispensing unit ~~(48)~~ with one or more dispenser nozzles ~~(49)~~ for stamping ink ~~(47)~~.

Claim 29 (Currently Amended): Processing device as claimed in claim 26, wherein in order to set up an effector unit ~~(19)~~ for co-operating with the handling unit ~~(7)~~, at least the dispensing unit ~~(48)~~ of the ink dispenser unit ~~(46)~~ and/or at least the operating head ~~(10)~~ of the material-removing unit ~~(6)~~

co-operates with it and the latter are preferably disposed on a retaining unit ~~(32)~~ of the effector unit ~~(19)~~ and are coupled therewith in displacement.

Claim 30 (Currently Amended): Processing device as claimed in claim 26, wherein the effector unit ~~(19)~~, ~~in particular the retaining unit (32)~~, is designed so that it can be positioned and displaced by means of the handling unit ~~(7)~~.

Claim 31 (Currently Amended): Processing device as claimed in claim 26, wherein the ink dispenser unit ~~(46)~~ has at least one outlet orifice ~~(55)~~ in the form of a discharge passage ~~(54)~~ for dispensing the stamping ink ~~(47)~~.

Claim 32 (Currently Amended): Processing device as claimed in claim 31, wherein the outlet orifice ~~(55)~~ is disposed on the dispenser nozzle ~~(49)~~ and the outlet orifice ~~(55)~~ has a flow connection to at least one ~~housing chamber for the stamping ink, in particular an ink container (51)~~.

Claim 33 (Currently Amended): Processing device as claimed in claim 26, wherein the ink dispenser unit ~~(46)~~ has several nozzles ~~(49)~~ with outlet orifices ~~(55)~~.

Claim 34 (Currently Amended): Processing device as claimed in claim 31, wherein one or more outlet orifices ~~(55)~~ of the dispenser nozzles ~~(49)~~ each have a flow connection to a flow passage ~~(52)~~ for stamping ink ~~(47)~~ in fluid lines ~~(50)~~.

Claim 35 (Currently Amended): Processing device as claimed in claim 26, wherein the at least one ink container ~~(51)~~ is preferably disposed in a stationary arrangement on a production system ~~(14)~~ and its housing chamber for stamping ink ~~(47)~~

preferably has a flow connection via at least one fluid line ~~(50)~~ to the outlet orifice or orifices ~~(55)~~.

Claim 36 (Currently Amended): Processing device as claimed in claim 26, wherein the ink dispenser unit ~~(46)~~ has a metering unit ~~(67)~~ to enable controlled dispensing of stamping ink ~~(47)~~.

Claim 37 (Currently Amended): Processing device as claimed in claim 36, wherein the metering unit ~~(67)~~ is provided in the form of a pressure generator ~~(68)~~, which is actively connected to the ink delivery system, ~~in particular the ink containers (51) and/or the fluid lines (50) and/or the discharge passage (54),~~ at least in the region of the outlet orifice ~~(55)~~.

Claim 38 (Currently Amended): Processing device as claimed in claim 26, wherein a shut-off device ~~(70)~~, ~~in particular a check valve (71),~~ is provided, preferably in the region of the outlet orifice ~~(55)~~ in the ink delivery system, ~~in particular the dispenser nozzle (49) or the fluid line (50),~~ in order to provide a fluid-tight seal of the outlet orifice ~~(55)~~.

Claim 39 (Currently Amended): Processing device as claimed in claim 26, wherein a housing chamber ~~(53)~~ of the at least one dispenser nozzle ~~(49)~~ has a flow connection or can be placed in a flow connection with several ink delivery systems, ~~in particular flow passages (52).~~

Claim 40 (Currently Amended): Processing device as claimed in claim 26 wherein the handling unit ~~(7)~~ has at least one guide system ~~(26, 28)~~ and at least one drive mechanism ~~(22, 29)~~ for displacing and positioning preferably the effector unit ~~(19)~~.

Claim 41 (Currently Amended): Processing device as claimed in claim 26, wherein the drive mechanism ~~(22, 29)~~ is actively connected to the control unit ~~(9)~~ for control and/or regulation purposes and the drive mechanism ~~(22, 29)~~ is designed for adjusting and moving a support arm ~~(25)~~ and/or the retaining unit ~~(31)~~ of the effector unit ~~(19)~~ as necessary by means of the guide system ~~(26, 28)~~.

Claim 42 (Currently Amended): Processing device as claimed in claim 26, wherein the control unit ~~(9)~~ has a memory unit in which software means are stored.

Claim 43 (Currently Amended): Processing device as claimed in claim 26, wherein the control unit ~~(9)~~ is provided in the form of an input and/or output unit ~~(61)~~, in particular a of the computer unit ~~(62)~~, connected via an interface to the processing device ~~(1)~~, in particular the material removing unit ~~(6)~~ and/or the handling unit ~~(7)~~ and/or the ink delivery system ~~(46)~~.

Claim 44 (Currently Amended): Processing device as claimed in claim 26, wherein the material-removing unit ~~(6)~~ is provided in the form of a radiation source ~~(33)~~, in particular a laser system ~~(36)~~.